



### *Chapter Outline:*

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## **2.0 Johnston County: From Quiet Countryside to Rapid Growth**

### ***2.0.1 Natural Characteristics and Local History***

Johnston County is located on the western edge of North Carolina's coastal plain region, just east of the fall line which divides the low lying sands, clays, and shoals of the coastal plain from the harder rock of the Piedmont. West of Johnston County, the fall line that divides these regions represents both a boundary for shipping transportation on the Neuse River and an opportunity for manufacturing from waterpower. These natural characteristics resulted in the development of cities and towns along the Neuse River such as Smithfield, which even today affect the health of the river as it flows through into Johnston County.

Pine forests dominate the ecology of Johnston County. The sandy soils and gentle incline into the foothills make the area naturally predisposed to agriculture. The railroad made more markets accessible, and by the mid-1800's, cotton production replaced subsistence farming, playing an important role in the development of Johnston County. Government agricultural regulations and declining cotton prices during the Great Depression permanently transferred the region's cash crop to tobacco.

The seat of Johnston County is the Town of Smithfield, established in 1771. Smithfield, the first town in the county, contains a park along the Neuse River where the landing of the 1700's Smith's Ferry gave the town its start. Today, the Smithfield Town Commons along the Neuse is the only existing portion of the MST in Johnston County.

### ***2.0.2 The 4th Fastest Growing County in the State***

Smithfield is the largest town in Johnston County, with a population of 11,510, according to the 2000 Census. The Town of Clayton is the second largest, with 6,975, followed by Selma, with a population of 5,914.

The total estimated population of Johnston County in 2004 was 141,640. With a growth rate of 12.1% between 2000 and 2003, Johnston County is the fourth fastest growing county in the state of North Carolina.

### 2.0.3 The Neuse River Basin

A key feature of Johnston County is the Neuse River, the basin of which completely encompasses Johnston County. The river is the longest in North Carolina and becomes the widest river in the United States, as it spreads to six miles at the Pamlico Sound. The expansive Neuse River Basin contains 3,880 miles of streams and rivers, and includes 74 municipalities. The population of people living within the Neuse River Basin in 2000 was 1,320,379, which was then 16.4% of the state's entire population.

Currently, within the westernmost portion of the basin, 61% of the Neuse River watershed is forest and 16% is agriculture. The remaining 17% of the watershed is urban and suburban development. Under both high and low 'buildout' scenarios (possible scenarios for future levels of growth), all agricultural land and some forested areas are predicted to be lost to development by 2025 .

While the predicted losses of rural landscapes and productive farmland are significant, they are compounded further by the threats to wildlife habitat and water quality in the basin. The Neuse River is home to multiple rare and endangered species, some of which are only found in the Neuse River. The culmination of this special habitat and surrounding development creates a need for protection. In 2000, 140 miles of streams were impaired by urban stormwater runoff, a figure that is growing as the population within the basin grows.



*The Neuse River Basin has been experiencing intense development pressure that is expected to continue in the coming decades. Right: The Neuse River in Smithfield.*



The “Neuse Rules,” a statewide legislation put forth in 1998, was meant to reduce pollutants entering the Neuse River. According to the legislation, there must be a 50-foot riparian buffer along all natural streams, lakes, ponds, and estuarine waters belonging to the Neuse River Basin. Except for activities existing prior to the legislation, the first 20 feet of the buffer must remain undisturbed, and some limited uses are allowed within the next 30 feet. See Appendix A for related Ordinances in Johnston County.

## 2.1 Top 7 Benefits of the MST for Johnston County

Communities across the United States are realizing the advantages of providing quality trail systems to their residents and visitors alike. North Carolina’s MST provides Johnston County an opportunity to create a crucial link in a statewide trail system that capitalizes on growth while maintaining the area’s small-town charm and natural beauty. Trails and greenways provide this unique opportunity through a variety of benefits that will ultimately affect the sustainability of Johnston County’s economic, environmental, and social health. These benefits include:

- **Creating Value and Generating Economic Activity**
- **Facilitating the Use of Alternative Transportation**
- **Improving Health through Active Living**
- **Clear Skies, Clean Rivers, and Thriving Wildlife**
- **Protecting People and Property from Flood Damage**
- **Enhancing Cultural Awareness and Community Identity**
- **Protecting Farmland and Openspaces**

Numerous studies have made the positive link between trails and their benefits abundantly clear. The degree to which a particular type of benefit is realized depends largely upon the nature of the greenway and trail system being implemented. Some systems are more recreation and transportation based, while others are more conservation based. The sections below describe how trails and greenways create these opportunities in general, while offering some examples of how each benefit could be realized in Johnston County. A list of resources is provided at the end of the chapter for more information.

## 2.2 Creating Value and Generating Economic Activity

The MST will bring economic benefits to Johnston County, including raising real property values, increasing tourism and recreation-related revenues, and if combined with ‘smart growth’ planning, it can offer savings in the cost of public services.

There are many examples, both nationally and locally, that affirm the positive connection between greenspace and property values<sup>1</sup>. Residential properties will realize a greater gain in value the closer they are located to trails and greenspace. According to a 2002 survey of recent homebuyers by the National Association of Home Realtors and the National Association of Home Builders, trails ranked as the

second most important community amenity out of a list of 18 choices<sup>2</sup>. Additionally, the study found that ‘trail availability’ outranked 16 other options including security, ball fields, golf courses, parks, and access to shopping or business centers. Findings from two reputable sources (The Trust for Public Land, *The Economic Benefits of Parks and Open Space*, and The Rails-to-Trails Conservancy, *Economic Benefits of Trails and Greenways*) illustrate how this value is realized in property value across the country:

### Trails Increase Real Property Values

- *Apex, NC*: The Shepard’s Vineyard housing development added \$5,000 to the price of 40 homes adjacent to the regional greenway – and those homes were still the first to sell<sup>3</sup>.
- *Front Royal, VA*: A developer who donated a 50-foot-wide, seven-mile-long easement along a popular trail sold all 50 parcels bordering the trail in only four months.
- *Salem, OR*: land adjacent to a greenbelt was found to be worth about \$1,200 and acre more than land only 1000 feet away.
- *Oakland, CA*: A three-mile greenbelt around Lake Merritt, near the city center, was found to add \$41 million to surrounding property values.
- *Seattle, WA*: Homes bordering the 12-mile Burke-Gilman trail sold for 6 percent more than other houses of comparable size.
- *Brown County, WI*: Lots adjacent to the Mountain Bay Trail sold faster for an average of 9 percent more than similar property not located next to the trail.
- *Dayton, OH*: Five percent of the selling price of homes near the Cox Arboretum and park was attributable to the proximity of that openspace.

These examples show how Johnston County’s development community can take advantage of future trail networks, providing access to them or even incorporating them into their site designs, creating a win-win situation for the developer and the local community.

*Damascus, VA loves its trails, as they generate \$2.5 million annually. Though it lacks the mountains found in Damascus, the proposed trail in Johnston is approximately the same length and near a much larger population base.*



Tourism and recreation-related revenues from trails and greenways come in several forms. Trails and greenways create opportunities in construction and maintenance, recreation rentals (such as bicycles, kayaks, and canoes), recreation services (such as shuttle buses and guided tours), historic preservation, restaurants and lodging. Tourism is currently ranked the number one economic force in the world. The excerpts below illustrate how powerful trails can be in stimulating tourism and economic opportunities:

### Trail Tourism Creates Economic Impacts

- *The Outer Banks, NC:* Bicycling is estimated to have an annual economic impact of \$60 million and 1,407 jobs supported from the 40,800 visitors for whom bicycling was an important reason for choosing to vacation in the area. The annual return on bicycle facility development in the Outer Banks is approximately nine times higher than the initial investment<sup>4</sup>.
- *Damascus, VA:* At the Virginia Creeper Trail, a 34-mile trail in southwestern Virginia, locals and non-local spend approximately \$2.5 million annually related to their recreation visits. Of this amount, non-local visitors spend about \$1.2 million directly in the Washington and Grayson County economies<sup>5</sup>.
- *Morgantown, WV:* The 45-mile Mon River trail system is credited by the Convention and Visitors Bureau for revitalizing an entire district of the city, with a reported \$200 million in private investment as a direct result of the trail<sup>6</sup>.
- *Tallahassee, FL:* The Florida Department of Environmental Protection Office of Greenways & Trails estimate an economic benefit of \$2.2 million annually from the 16-mile St. Marks Trail<sup>8</sup>.
- *San Antonio, TX:* Riverwalk Park, created for \$425,000, has surpassed the Alamo as the most popular attraction for the city's \$3.5-billion tourism industry<sup>7</sup>.
- *Pittsburgh, PA:* Mayor Tom Murphy credits trail construction for contributing significantly to a dramatic downtown revitalization.
- *Allegheny Passage, PA:* The direct economic impact of the trail exceeded \$14 million a year, encouraging the development of several new businesses and a rise in property value in the first trailhead town.
- *Leadville, CO:* In the months following the opening of the Mineral Belt Trail, the city reported a 19 percent increase in sales tax revenues.
- *Dallas, TX:* The 20-mile Mineral Wells to Weatherford Trail attracts 300,000 people annually and generates local revenues of \$2 million.
- *Milford, DE:* The Mispillion River Greenway is credited with inspiring downtown reinvestment with 250 people now working in a downtown that was vacant 10 years earlier.
- *Nicholas County, WV:* Each fall, rafters pump \$20 million into the local economy for the 24-mile scenic stretch of the Gauley River.
- *Pacific Grove, CA:* The Chamber of Commerce President estimates approximately 4.5 million visitors annually in the area for the Monterey Bay Trail.





Some of the trail examples on the previous page feature unparalleled natural landscapes that contribute to the impressive figures they generate. North Carolina's statewide MST will feature many unique landscapes that rival these examples, in some cases surpassing them. Johnston County should aim to attract similar economic benefits as those noted above, especially considering that the County lies between the capital region's growing population base and the increasingly popular coastal region of North Carolina. The County also plays a unique role for the MST, hosting the section of trail that transitions from the piedmont to the coastal plain. This positions Johnston County strategically as a start and end point for cross-state trail users who wish to complete the MST one section at a time.

*Businesses catering directly to trail users, such as cottages, bike rentals, and restaurants, all contribute to the economic impact of trails.*

### 2.3 Facilitating the Use of Alternative Transportation

The sprawling nature of land development patterns today often leaves residents and visitors with no choice but to drive, even for short trips. In fact, two-thirds of all trips we make are for a distance of five miles or less. Surveys by the Federal Highway Administration show that Americans are willing to walk as far as two miles to a destination and bicycle as far as five miles. Greenway-based bikeways and walkways, as part of a local or regional transportation system, offer effective transportation alternatives by connecting homes, workplaces, schools, parks, downtowns, and cultural attractions.



In Johnston County, the MST will provide local and regional alternative transportation links that are currently non-existent. Residents who live in subdivisions near the Town of Clayton will be able to walk or bike downtown for work, or simply weekend recreation. Residents in Smithfield will be able to circulate through town in a safe, efficient, and fun way: walking or biking. Residents throughout the corridor will be able to move freely along the MST and town trails without paying increasingly high gas prices and sitting in the ever-growing automobile traffic. Last but not least, once the MST is connected from Clayton to Raleigh, avid cyclists will find the 16-mile commute highly feasible.

## 2.4 Improving Health through Active Living

The MST in Johnston County will contribute to the overall health of trail users by offering people attractive, safe, accessible places to bike, walk, hike, jog, skate, and even places to enjoy water-based trails. In short, the trails system will create better opportunities for active lifestyles.

The design of our communities—including towns, subdivisions, transportation systems, parks, trails and other public recreational facilities—affects people’s ability to reach the recommended 30 minutes each day of moderately intense physical activity (60 minutes for youth). According to the Centers for Disease Control and Prevention (CDC), “Physical inactivity causes numerous physical and mental health problems, is responsible for an estimated 200,000 deaths per year, and contributes to the obesity epidemic”<sup>9</sup>.

*The MST plan aims to expand some the County’s existing opportunities for active living, such as canoeing on the Neuse. (Photo courtesy of the Clayton Parks and Recreation)*



In identifying a solution, the CDC determined that by creating and improving places in our communities to be physically active, there could be a 25 percent increase in the percentage of people who exercise at least three times a week<sup>10</sup>. This is significant considering that for people who are inactive, even small increases in physical activity can bring measurable health benefits<sup>11</sup>. Additionally, as people become more physically active outdoors, they make connections with their neighbors that contribute to the health of their community.

Many public agencies are teaming up with foundations, universities, and private companies to launch a new kind of health campaign that focuses on improving people's options instead of reforming their behavior. A 2005 Newsweek Magazine feature, *Designing Heart-Healthy Communities*, cites the goals of such programs (italics added): "The goals range from updating restaurant menus to restoring mass transit, but the most visible efforts focus on making the built environment more conducive to *walking and cycling*."<sup>12</sup> Clearly, the connection between health and trails is becoming common knowledge. The Rails-to-Trails Conservancy puts it simply: "Individuals must choose to exercise, but communities can make that choice easier."

### 2.5 Clear Skies, Clean Rivers, and Thriving Wildlife

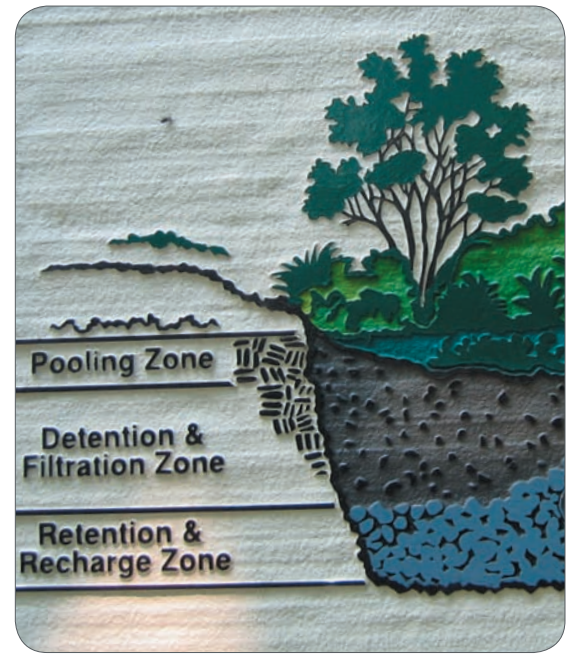
There are a multitude of environmental benefits from trails and greenways that help to protect the essential functions performed by natural ecosystems. Greenways protect and link fragmented habitat and provide rare opportunities for protecting plant and animal species. Trails and greenways reduce air pollution by two



*Greenways improve water quality by creating a natural buffer zone that protects streams, rivers and lakes, including the wildlife that depends on those water bodies remaining clean.*



significant means: first, they provide enjoyable and safe alternatives to the automobile, which reduces the burning of fossil fuels; second, they protect large areas of plants that create oxygen and filter air pollutants such as ozone, sulfur dioxide, carbon monoxide and airborne particles of heavy metal. Greenways improve water quality by creating a natural buffer zone that protects streams, rivers and lakes, preventing soil erosion and filtering pollution caused by agricultural and road runoff.



*Signs such as these, entitled, "Improving Water Quality in Your Community" offer information on local environmental issues.*

As an educational tool, trail signage can be designed to inform trail-users about water quality issues particular to the Neuse River and its surrounding land uses, including tips on how to improve water quality. Similarly, a greenway can serve as a hands-on environmental classroom for people of all ages to experience natural landscapes, furthering environmental awareness.

## 2.6 Protecting People and Property from Flood Damage

Greenways also serve as natural floodplains by protecting land along rivers and streams. According to the Federal Emergency Management Agency (FEMA), the implementation of floodplain ordinances is estimated to prevent \$1.1 billion in flood damages annually. By restoring developed floodplains to their natural state and by limiting development within the floodplain, many riverside communities are preventing potential flood damages and related costs<sup>13</sup>. This aspect of greenways is particularly relevant to Johnston County, as indicated by local newspaper headlines: "Floodwaters cause damage" (The Herald, June 20, 2006). The article reported that, according to the National Weather Service, "the Neuse River rose seven feet above flood stage, cresting at 22.95 feet on Friday and swamping some homes in the county." Reports like these are a good indication that land within the Neuse River floodplain should not be built upon. See Appendix A for Johnston County's Floodplain Ordinance.



*The trail could serve as major attraction in the region by recognizing, honoring, and connecting Johnston County's many cultural and historical resources. Right: Smithfield's theatre on the Town Commons along the Neuse River.*

### 2.7 Enhancing Cultural Awareness and Community Identity

Greenways can serve as connections to our heritage by preserving historic places and by providing access to them. They provide a sense of place and an understanding of past events by drawing the public to historic and cultural sites. Trails often provide access to historic features such as battlegrounds, bridges, buildings, and canals that otherwise would be difficult to access or interpret. For example, Virginia's statewide Civil War site preservation initiative includes trails that feature more than 190 sites that had never been interpreted prior to the start of the program in 1993. More locally, the six-mile Bethabara Trail and Greenway in Winston-Salem, North Carolina draws people to the birthplace of the city, allowing tourists and trail users to learn about the specific history of their community.

Johnston County has its own unique history, its own features and destinations, and its own historic downtowns and beautiful pastoral landscapes. By recognizing, honoring, and connecting these features through the MST, the combined result could serve as major attraction for those outside of the region. Being aware of the historical and cultural context when naming trails and designing trail features will further enhance the overall trail-user experience.

### 2.8 Protecting Farmland and Open Spaces

The establishment of greenways and the protection of open space go hand-in-hand. Similarly, when greenways pass through agricultural areas, as proposed in Johnston County, they also help to protect farmland by introducing local landowners to a wide range of tools for land conservation and farmland preservation. According to the American Farmland Trust, a national group of farmers and conservationists,



sprawling development and a changing farm economy are increasing pressures on agricultural communities throughout North Carolina's Piedmont. According to the Trust,

*“Counties eager to promote economic growth may assume that the building boom will increase revenues and fund needed services. However, Cost of Community Services (COCS) studies recently completed in Orange, Alamance and Union counties show the opposite: residential properties actually cost the county more in needed services than they provided in revenue, while farm and forestland owners paid more than their fair share of taxes.”*  
(American Farmland Trust, 2006)

By establishing a greenway along the Neuse River, Johnston County can establish the use of farmland preservation strategies, spreading awareness of its importance, and preventing the mistakes of Orange, Alamance and Union Counties.

## 2.9 Improving Quality of Life in Johnston County

A greenway system for Johnston County will contribute to the overall quality of life for its residents by improving the personal health of individuals, promoting the economic development of regional tourism, enhancing and protecting the environmental quality of the Neuse River corridor, conserving the heritage of the rural culture, and by offering area residents a choice to walk or bike for their local trips.

*Right: Clayton Community Park, courtesy of Clayton Parks and Recreation Department.*



## Chapter 2 Footnotes

- <sup>1</sup> American Planning Association. (2002). *How Cities Use Parks for Economic Development*.
- <sup>2</sup> National Association of Realtors and National Association of Home Builders. (2002). *Consumer's Survey on Smart Choices for Home Buyers*.
- <sup>3</sup> Rails to Trails Conservancy. (2005). *Economic Benefits of Trails and Greenways*.
- <sup>4</sup> NCDOT and ITRE. (2006). *Bikeways to Prosperity: Assessing the Economic Impact of Bicycle Facilities*.
- <sup>5</sup> Virginia Department of Conservation. (2004). *The Virginia Creeper Trail: An Assessment of User Demographics, Preferences, and Economics*.
- <sup>6</sup> Rails to Trails. (Danzer, 2006). *Trails and Tourism*.
- <sup>7</sup> American Planning Association. (2002). *How Cities Use Parks for Economic Development*.
- <sup>8</sup> Rails to Trails. (Danzer, 2006). *Trails and Tourism*.
- <sup>9</sup> U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (1996). *Physical Activity and Health: A Report of the Surgeon General*.
- <sup>10</sup> U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2002). *Guide to Community Preventive Services*.
- <sup>11</sup> Rails-to-Trails Conservancy. (2006) *Health and Wellness Benefits*.
- <sup>12</sup> Newsweek Magazine. (10/3/2005). *Designing Heart-Healthy Communities*.
- <sup>13</sup> Federal Emergency Management Agency. (2005) *Building Stronger: State and Local Mitigation Planning*.